

What is claimed:

✓ 1. A guide wire for use in navigating a medical device through a body lumen to a particular location, the guide wire having a proximal end and a distal end, and a magnet on the distal end, the guide wire being sufficiently flexible adjacent the magnet to allow the wire to flex in response to a magnetic field applied to the magnet, yet the wire being sufficiently stiff to allow the wire to be advanced through the body lumen.

2. The combination according to claim 1 wherein the magnet on the distal end of the guide wire is a cylindrical body having an axial bore therethrough, and wherein the distal end of the guide wire extends into the axial bore.

3. The combination according to claim 1 wherein the magnet on the distal end comprises a flexible magnetic material forming the distal end section of the guide wire.

4. The combination according to claim 1 wherein the magnet on the distal end comprises a plurality of magnets on the distal end section of the guide wire in spaced apart relation.

5. The combination according to claim 1 wherein the magnet is a permeable magnetic material.

6. The combination according to claim 1 wherein the magnet is a permanent magnet.

7. In combination with a medical device having a proximal end, a distal end, and a lumen therebetween, a guide wire having a proximal end, a distal end, and a magnet on the distal end, the guide wire extending through the lumen of the medical device, with the distal end of the guide wire extending beyond the distal end of the medical device.

8. The combination according to claim 7 wherein the magnet on the distal end of the guide wire is

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a cylindrical body having an axial bore therethrough, and wherein the distal end of the guide wire extends into the axial bore.

9. The combination according to claim 7 wherein the magnet on the distal end comprises a flexible magnetic material forming the distal end section of the guide wire.

10. The combination according to claim 7 wherein the magnet on the distal end comprises a plurality of magnets on the distal end section of the guide wire in spaced apart relation.

11. The combination according to claim 7 wherein the magnet is a permeable magnetic material.

12. The combination according to claim 7 wherein the magnet is a permanent magnet.

13. A method of navigating a medical device through a body lumen to a desired location within the body, the method comprising:

providing a medical device having a lumen therethrough, the lumen having a proximal end and a distal end; inserting a guide wire having proximal end and a magnetic distal tip through the lumen of the device until at least a portion of the magnetic distal tip extends distally beyond the distal end of the lumen in the medical device;

inserting the medical device and guide wire into a lumen in the body;

navigating the medical device through the lumen in the body by applying a magnetic field to orient the magnetic tip in the desired direction of travel; advancing the

guide wire in the direction in which the magnetic tip is oriented; and advancing the medical device over the guide wire.

14. The method according to claim 13 wherein the magnetic tip of the guide wire comprises a magnet mounted on the distal end of the guide wire.

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 ✓ 15. The method according to claim 13 wherein ~~the~~ magnetic tip of the guide wire comprises the distal section of the guide wire being made from a flexible magnetic material.

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 ✓ 16. The method according to claim 13 wherein the magnetic tip of the guide wire comprises a plurality of magnets secured on ~~the~~ distal end section of the guide wire in spaced apart relation.

✓ 17. The method according to claim 13 wherein the magnetic tip of the guide wire comprises a permeable magnetic material.

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 ✓ 18. The method according to claim 13 wherein the magnetic tip of the guide wire comprises a permanent magnetic material.

✓ 19. The method according to claim 13, wherein the step of navigating the medical device comprises successively incrementally advancing the guide wire and the medical device.

✓ 20. The method according to claim 13 wherein the step of advancing the guide wire comprises pulling the guide wire with the magnetic field.

✓ 21. The method according to claim 13 wherein the step of advancing the guide wire comprises pushing the proximal end of the guide wire.

✓ 22. The method according to claim 13 wherein the step of advancing the guide wire comprises pulling the guide wire with the magnetic field and pushing the proximal end of the guide wire.

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 ✓ 23. In combination with a guide wire having a proximal end, a distal end, and a magnetic distal tip, a medical device having proximal end, a distal end, and a lumen extending substantially to the distal end of the device, the guide wire extending into the lumen of the medical device with the magnetic distal tip in the distal end of the lumen in the medical device.

24. The combination according to claim 23 wherein the portion of ^{a distal end} the guide wire ^a adjacent the distal end is sufficiently flexible to allow the magnetic tip to move in response to an applied magnetic field, but the proximal section of the guide wire is sufficiently stiff to advance the medical device through a lumen in the body.

25. The combination according to claim 24 wherein the magnetic distal tip comprises a magnet on the distal end of the guide wire, ^{the magnet has a} cylindrical body with an axial bore therethrough, and wherein the distal end of the guide wire extends into the axial bore.

26. The combination according to claim 24 wherein the magnetic distal tip comprises a flexible magnetic material forming the distal end section of the guide-wire.

27. The combination according to claim 24 wherein the magnetic distal tip comprises a plurality of magnets on the distal end section of the guide wire in spaced apart relation.

28. The combination according to claim 23 wherein the magnetic distal tip comprises a permeable magnetic material.

29. The combination according to claim 23 wherein the magnetic distal tip comprises a permanent magnetic material.

30. The combination according to claim 24 wherein the lumen of the medical device has a stricture therein for engaging the guide wire and retaining the guide wire in the lumen of the medical device.

31. A method of navigating a medical device through a body lumen to a desired location within the body, the method comprising:
providing a medical device having a proximal end, a distal end, and a lumen extending to substantially the distal end of the medical device;

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inserting a guide wire having proximal end and a magnetic
distal tip into the lumen until the magnetic tip is
substantially adjacent the distal end of the medical
10 device;
inserting the medical device and guide wire into a lumen
in the body;
navigating the medical device through the lumen in the
body by applying a magnetic field to orient the magnetic
15 tip inside the lumen of the medical device so that the
distal end of the medical device is oriented in the
desired direction of travel; advancing the guide wire and
medical device in the direction in which the distal end
of the medical device is oriented.

32. The method according to claim 31 wherein
the magnetic tip of the guide wire comprises a magnet
mounted on the distal end of the guide wire.

33. The method according to claim 31 wherein
the magnetic tip of the guide wire comprises the distal
section of the guide wire being made from a flexible
magnetic material.

34. The method according to claim 31 wherein
the magnetic tip of the guide wire comprises a plurality
of magnets secured on the distal end section of the guide
wire in spaced apart relation.

35. The method according to claim 31 wherein
the magnetic tip comprises a permeable magnetic material.

36. The method according to claim 31 wherein
the magnetic tip comprises a permanent magnetic material.

37. The method according to claim 31,
wherein the step of navigating the medical device
comprises successively orienting and advancing the guide
wire and medical device.

38. The method according to claim 31 wherein
the step of advancing the guide wire and medical device
comprises pulling the guide wire with the magnetic field.

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39. The method according to claim 31 wherein the step of advancing the guide wire and medical device comprises pushing the proximal end of the guide wire.

40. The method according to claim 31 wherein the step of advancing the guide wire and medical device comprises pulling the guide wire with the magnetic field and pushing the proximal end of the guide wire.

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